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Review Paper

A comprehensive review on impact of various demographic and psychological attributes in investment decision making by investors

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Abstract

Indian Commodity Derivative Market has seen a remarkable boom since 2002, due to liberalization in this field. Indian commodity market has about 113 commodities that are being traded under various categories or groups of commodities. Thus has become a better place for investment. Investors in this market play a vital role. The behaviors of investors are affected by various factors and there has been a pattern in the investment in Indian Commodity Market. This review has been done to understand what are the various factors influence the decision making of the investors. Investors risk perception and information seeking behavior also has a great impact on the decision making process of investors and because of the investors draw an pattern of investing in various fields. It was found that there are various theories and models available which describes how individual investor is different from the other. To find out the significance practically there are various tests.

Keywords: Behavioural Finance, Indian Commodity Market, Investors, Decision Making.

Introduction

In the present scenario Indian commodity market has become a new and a better field for the investment. Contribution of the commodity market in GDP is about 58%. Commodities are the goods produced by the companies or firm without any qualitative difference. Indian commodity market was relatively popular in late 70s. The growth of the organized sector was developed in 2003. The emergence of the Indian commodity market was in 1875 by Bombay Cotton Trade Association Limited.

At present there are 6 National Commodity Exchanges working, they are: Multi Commodity Exchange (MCX) Mumbai, National Commodity and Derivative Exchange (NCDEX) Mumbai, National Multi Commodity Exchange (NMCE) Ahemdabad, Indian Commodity Exchange Limited (ICEX) Mumbai, ACE Derivative and Commodity Exchange (ACE) Mumbai, and Universal Commodity Exchange Limited (UCX) Navi Mumbai. Apart from these commodity exchanges there are 19 more regional commodity exchanges. These commodity exchanges regulate forward trading of 113 commodities.

These commodities fall under various categories like: i. Agro-based products: these can be further segmented as edible oilseeds (mustard seed oil, cottonseed oil, soyabean oil,), food grains (wheat, corn, gram, bajra, maiz, etc), spices (turmeric, pepper, jeera, etc.), forest products (jute, cotton, coffee, rubber, sugar, etc.), etc. ii. Metals: these consists of precious metals such as gold, silver, platinum, etc. and other metals namely nickel, copper, zinc, aluminum, etc. iii. Live stock: this category consists of live cattle and their other by products. iv. Energy: they are Crude oil, Natural Gas, Gasoline, etc.

In the commodity market there are more than 113 commodities listed and traded daily. These commodities are traded in under various futures, Spot prices in various commodity exchanges. These commodity exchanges consists of various market players namely hedgers, speculators and arbitragers. They invest in the market with an intention to earn profit with less risk. Investors play an important role in these exchanges. The behavior of these investors has a great influence in the commodity market. Their behavior is being affected by various factors which influence their decision making process. In order to understand these factors there are various behavioral and psychological theories available to understand the behavior and the decision making process of the investors.

In this paper an attempt has been made to understand that how investors behavior influence the commodity market and what are the various factors which determine the behavior of an investor. This will help the commodity market to understand the investment pattern of the investors and the various factors influencing it. Various researches have been made in the field of commodity market and behavior of the investors.

Investors play a vital role in the performance of the commodity. Human behavior is never constant it always changes and it is

very important to understand what are the factors that affect the behavior of an investor. There are various psychological attributes that affect behavior of the investor and also in the decision making for the investment.

Broad literature survey

Raghavendra R.H., Velmurugan P.S. and Saravanan A.[1] made an empirical study to examine Indian market by evaluating association among spot and future prices of various agricultural commodities over a period as of January 2010 to March 2015 traded in National Commodity and Derivative Exchange NCDEX. The commodities included in the study are Soya Bean, Chana (Chickpea), Maize, Jeera and Turmeric. With the help of regression model they tried to find the lead-lag relationship between all five commodities traded in NCDEX. They investigated about which market price reacts first between the spot and future prices of the agricultural commodities traded in NCDEX. They concluded that the future market for these commodities depends on the transparency and efficiency in terms of price risk management, price discovery, etc. It was further concluded that there are one way causal linkage between future price and spot price of two commodity viz., Soya Bean and Chana; and there were two way causal linkages between future price and spot price of three selected commodities viz. Maize, Jeera and Turmeric.

P. Jeevanandham and A.A. Ananth[2] studied the impact of various demographic factors on investment behavior towards commodity markets along with the relationship between the investor's knowledge and investor's investment satisfaction in commodity market. In order to examine this they used Chi-square test and Correlation analysis on the various factors. They found that there is an association between the investor's opinions about the level of their investment behavior in commodity market on the basis of age, education, occupation, annual income and experience in the field. They also found that there is a significant relationship between the satisfactions in investing in commodity market with the knowledge about the commodity market.

P.R. Muthuswamy and R. Rathi Devi[3] they have made an attempt to study various factors which influence the behavioral aspects of risk perception, information seeking behavior and investment decision of investors while investing in financial market. They used the tools of correlation, MANOVA and multiple regression analysis on the different factors. They found that there is a remarkable impact of various demographic factors in investment behavior of the investors. Investment by both male and females have increased in this field due to awareness and availability of surplus amount of investments.

Vinay H.V. and G.V. Kesava Rao[4] have done the research to understand the influence of different social cognitive factors and emotional biases factors which affect the economic decision making of the investors and its impact on the market. They aimed to study the various behavioral factors influence on investment and understand the conceptual model for investment decision. The influence of Psychological factors in investment decision which in turn influences risk perception of investors. A behavioral concept has significant influence on market returns and perceived risks and biasness effect the decision making process.

Geetika Madaan Sukheja[5] aims to clarify how biases, moods and emotions influence the financial behavior of individuals and also to explore behavioral determinants influencing individual investor's decision- making at financial front. The researcher finds various factors like overconfidence and anchoring effect the behavior of the investor in decision making and risk perception.

Dhiraj Jain and Nakul Dashora[6] made an attempt to study the behavior of the investors in Udaipur for the period of September 2011 to January 2012 with 110 respondents. They studied the perception, preferences and investment strategies adopted by the investors of Udaipur for investing in Indian Stock Market. They empirically studied the impact of various demographic factors like age and income level and impact of market related information on various decision factors on market expectations, dividend and bonus announcement of the stock market. They carried Chi-square test and ANOVA and found the results that investors prefer in investing in both primary and secondary market with the policy of wait and watch in order to take their decisions. These decisions of the investors are due to various psychosomatic reasons and behavioral magnitudes.

Mdhavi Dhole[7] has studied the impact of different behavioral factors on investment of the private practicing doctors in Aurangabad. Researcher took various factors like- herding, representativeness, overconfidence, cognitive conflict, fear of regret, mental accounting, hindsight, etc and studied their impact on the investment decision. They found that behavior plays a vital role in decision making for investment purpose. Investors are risk aversions.

Sampada Kapse, Sachin Abada and Pratik Chothani[8] made a study on the investor of Kutch region performance analysis of Indian agricultural commodity market with the development and its share in the commodity market. It was a descriptive type of analysis. It was found that the agricultural commodity market is being divided in to various segments: oil and oil seeds, spices, pulses, cereals, plantation fibbers and manufacturers and other non food items. It studied 5 years of growth and found that there are 113 items which are traded.

Pravakar Sahoo and Rajiv Kumar[9] made an attempt to study the effectiveness and fluctuation of future market trading-price for the top 5 selected commodities of Indian future commodity market. These commodities are gold, copper, petroleum crude, soya oil and chickpea. They adopted Ganger causality framework and F-test for studying the market efficiency over a

period of 1 May 2006 to 30 April 2008. As a result they found that in Ganger causality test only one commodity i.e. petroleum crude is the case where causality runs from volume of spot price and in the other 4 case there is causality in volume to spot prices. They did not found any supporting evidence to prove that future markets leads to higher inflation. They further found that future markets for all five commodities are efficient.

Vinay K. Srivastava[10] had empirically studied and tested the efficiency and Randomness of the commodity market in India the authors test only weak-form hypothesis. For the study of the weak-form hypothesis there are two statistical tools - Autocorrelation and Runs Test. They have taken seven commodities Crude Oil, Wheat, Gold, Silver, Copper, Aluminum, and Chana, following stratified sampling. Data sets of the commodity have been collected of one year form 01/04/2012 to 31/03/ 2013. They have taken spot prices of these commodities in standard unit. Data sources had been MCX and NCDEX. Study has concluded that Indian commodity market is having weak-form hypothesis. All the series of sample of commodity having insignificant autocorrelation and runs test is also accepting the null hypothesis of randomization of the series.

The main purpose of their study was to understand financial behaviour of investors with respect to their demography and psychological factors which influence the process of investment decision making. The participation of investors was across Pune region. They used Chi-square test and Correlation analysis to test the significant relationship among demographic factors and risk taking ability of the investors, where the risk was taken as dependent variable at the time of investment in the financial market[10].

It was found that there is a relationship between age, income level and the amount of risk an investor is willing to take at the time of investment. After applying a correlation test among the variables it was found that there is a negative correlation between them. They further concluded that there is no relationship between gender and level of risk taken by the investor. Behavioral factors such as Regretful (0.245), Reluctant (0.354), Belief (0,891), rational choice (0.837) and Constructive (0.211) are not statistically significant. The values of R square and adjusted R square states that investor behavior cast an impact of 68 to 73 percent on their decision making. They concluded that investors behavior is being influenced by their psychological behavior.

Amlan Jyoti Sharma[12] they try to compare Efficient Market Hypothesis and Behavioral finance in order to draw a conclusion which one is better. The nature of their study was conceptual and descriptive and is based on the sources like books, journal and internet. They found that though EHM has some specific shortcoming as pointed by Behavioural Finance, it should be notices that it act as a theoretical framework for investing in the stock market. They also found that in order to replace the theories like EHM need to be more refined and rigorous analysis.

Abhishek Y. Dikshit and Preeti A. Dikshit[13] studied with a view to examine the relationship between Behavioural Finance and Efficient Market Hypothesis. They used quantitative method for the study. They carried a survey and collected an empirical data for studying behavioural impacts. It was found that there is a propensity among the professional investors indicating that they clear-cut fall for psychological dilemmas. They also found that within the target group, level of irrationality is common and it is connected to the psychological dilemmas.

Chitra K. and Jayshree T.[14] aims to identify the determinants of awareness and risk perception of equity investors along with the factors influencing the behavioural factors. The study was conducted on 386 retail investors in Chennai city. The study concluded that the investors are dependent on media and social learning for the source of information. To formulate their investment choices the behavioural biases such as illusion of control, cognitive dissonance, anchoring and hindsight are decisive factors for investors. The investors make rational thinking and they do periodic calculation of the risk and return calculation of their stocks.

Kanu Jain and Sahaj Wadhwa[15] made an effort to understand whether investor suffer from emotional biases like overconfidence and self attribution at the time of making investment decisions. These emotional biases were tested in relation with the investor's age, their market involvement and also with their gender. A survey was conducted and tests like Mann-Whitney U test and Probability Model were used in order to study the responses. They found that though investors are overconfident but most of them did not undergo self- attribution biases. It was further found that overconfidence biases reduces with the age among the investors and among the non-brokers the self attribution biases is more prevailing.

Suruchi Sharma[16] studied if groups based on gender and eight investor sophistication factors are different with respect to information processing cognitive bias composite score, belief perseverance cognitive bias composite score, and emotional bias composite score in four cities of Ajmer, Jaipur, Kota, and Udaipur. The survey was conducted during the three-and-a-half-month period from August, 2014 to Mid of November, 2014. The Mann-Whitney and Kruskal-Wallis tests conducted between gender and the 8 factors of investor sophistication, and the composite scales of information processing bias, belief perseverance bias, and emotional bias. The respondent groups based on gender, city of residence, and level of education were found to be different in information processing cognitive biases, the respondent groups based on investment frequency were found to be different in belief perseverance cognitive biases, and the respondent groups based on the category of occupation and early financial sensitization were found to be different in emotional biases. The variables of age group, income group, and

investment experience did not show any significant association with any of the three composite biases.

Shweta Goel[17] studied the influence of 'Herding Effect', on investors while making decision at the time of investment in the Indian Stock Market. They examined herding effect by taking 124 individual investors of Delhi. The study also tries to find out the relation between the behavioral factor and investment performance. Researcher found that herding effect is visible among Indian investors to some extent. Also, investors in general were satisfied with the performance of their investment decisions owing to low levels of technical knowledge, though the rate of return on such investments was in most cases lower than that of market return. Further it was found that investors believe decisions of herd are always true howsoever irrational they may be.

Ajay Singh and Rahul Sharma[18] tries to understand the financial literacy level of the individual investors and its impact of financial literacy on investment behaviour. They also analysed investment behaviour pattern for investment decision. Researcher took 150 MCD school teachers in Delhi Region. The data was analysed using the descriptive statistics, rank order and chi square test to check the impact of certain key attributes of financial literacy and investment behaviour. Key finding that emerged highly relevant includes the impact of awareness for financial investment instruments based on level of knowledge, level of interest, level of commitment which plays a very crucial role for making an investment decision for a particular financial instrument.

Sanjay Kanti Das[19] plans to study and identify the various factors which influence the decision of investors for selecting a stock along with the demographic factors. They further explored the behavior of retail investors at the time of choosing stocks from Guwahati Stock Exchange. They also studied the role of various demographic factors, attitudinal factors and socio-economic factors which affect the investor's decision making process with the help of ANOVA. The research was conducted in Assam with 100 retail investors, who were linked with Guwahati Stock Exchange for the period of June and July, 2011. The analysis reveals that there are five highly influential factors such as Media Coverage of the stock, Company's Social Responsibility, acquaintance with products and services and sensitivity of sales in particular industry. Further it was found that the there are four factors which were at the lowest priority at the time of choosing a stock are size of company, recommendations from friends, family and peer, firms market share and expected stock split. They also found that the hypothesis which were framed in order to check impact of various demographic factors like gender, age, education, occupation, income and the membership duration of investors has no significant difference in stock selection decision of retail investors.

Dr. Vivekanand Pandey[20] their study focuses on the impact of gender differences in risk aversion and over confidence in investment decision making process. The study was conducted in Lucknow in order to find whether there is any significant relationship between gender differences, risk aversion and over confidence in investment decision making of the investors and also to study the impact of risk aversion and over confidence in financial decision making. They found that frequency of investment among females investor is less as compared to the male investors. It was further found that females are more risk averse than males and in terms of overconfidence there were no specific pattern or differences found among males and females thought females consider themselves as below average. They concluded that females are more conservative as compared to males. There is risk aversion differences among the genders as male do not prefer risk free investments and overconfidence has show mixed results.

S. Sathya[21] focused on the risk and return associated with derivatives used in equity, commodity, and currency market in India. The average and standard deviation to access the risk and return factor and also comparative tool for correlation analysis were used to find out relationship among risk and return. It is found that the risk premium of equity is basically same as commodity; equity returns are negatively correlated with commodity return and currency return and also found that the equity, commodity, and currency of derivatives are used for hedging purpose.

Shrikrishna K.S. and Rakesh H.M.[22] studied to understand the behaviour of retails investor and their level of awareness about equity futures and options along with the factors affecting it from a sample of 50 retail investors of Mysore City, Karnataka, India. With the help of standard deviation and correlation analysis of the data so collected. It was found that majority of the retailers have a moderate awareness about the knowledge of the investments and derivatives, the investment in equity and options attract the risk avoiders and the main intention is for capital growth. The level of liquidity is moderate in equity futures and options.

Research Methodology

A thorough review of existing conceptual and empirical literature has been made under this study. The articles and research paper published in different online database and search engines like J-Gate Plus, SSRN, NBER, Science Direct, INDIASTAT, Pro-Quest, JSTOR, OECD library, Google Scholar along with the books has been reviewed. The study has been conducted in terms of fundamental measures like objectives, research methodology, sample, and the various behavioural factors that influence the investment behavior and decision making process of investors. The main purpose of the study is to identify the research gap in the field of investment in commodity market and various factors which influence the decision making process of these investments. It also aimed to determine the relationship between income, saving and investment behavior among the investors while making the

investment decisions and also to find the various factors which influence the decision making process.

The study were made to explore information regarding the various attributes of investors behavior and psychology which influence their attitude towards risk perception, information seeking and investment decisions with special reference to investment in the Indian commodity derivative market.

Objectives of research: i. To study the various behavioural attributes that affect the investors decision making process. ii. To study the various decision factors that influence the decision making of the investors with respect to the commodity market. iii. To study the investment pattern of the investors at the time of investment in Indian Commodity Market.

Findings

There were studies that were done over the various commodities that are traded in the Indian Commodity Market. These commodities have spot and future prices that effect the movement of the market and are closely related to each others. This trading in Indian Commodity Market is also influenced by the investment of the investors in various commodities. Further these investments are affected by the investors risk perception, knowledge, satisfaction, demographic factors, socioeconomic factors, psychological factors, etc. Decision making of the investors is affected by the various emotional psychological and demographic attributes. They play a vital role in the development of the investor regarding the investment. This behavior influences the risk perception, information seeking and also the investment decision of the investor at the time of investment in the Indian commodity market. From the study of the literature available, following are the findings.

It was found that the behavioural attributes can be divided into various segments like demographic, psychological and emotional factors which have a direct impact on the investor's decision making. Due to these factors all the investors behave differently and they have different level of satisfaction for their investments. These factors are further classified as follows: i. *Demographic Factors:* Age, gender, education, occupation, income, family status, no of dependents, knowledge, etc. ii. *Psychological Factors:* Heuristics (representative and availability), overconfidence, anchoring, hindsight bias, buying and selling biased by choice, interest, noise effect, snake bite effect, cognitive conflict, fear of regret, illusion of control, self attribution, etc. iii. *Emotional Factors:* mental Accounting, loss aversion, risk bearing capacity, endowment effect, regret aversion, information processing, time of investment, experience, etc.

Form the study it was found that the investors decision are affected by various decision and market attributes like: i. *Decision Factors:* Capital appreciation, safety consideration, liquidity, balance of risk and return, investment need, satisfaction level, etc. ii. *Market attributes:* price change, market return, company status, company performance, commodity specific price fluctuation, price of commodity in relation with other commodities, buying, selling and warehousing conditions, time of investment, etc.

It was found that there was various kind of pattern drawn by the investors at the time of investment. These patterns were the result of their level of knowledge, risk bearing capacity, level of satisfaction, interest and commitment of the investors towards various investment avenues, time of investment, etc. These were further backed by the various demographic, socio-economic and psychological factors which has a major impact on the investment decision making capacity of the investors. It was found that male investors are more prone to take risk as compared to female investors. The investors' behavior is mainly risk averse and is emotionally biased with their investment decision making process in the Commodity Market.

Conclusion

Efficient Market Hypothesis and prospect theory along have provided base for the investors' behavior and various attributes that effect the investment decision making of the investors. This gave birth to a new field of behavioural finance. This study has provided and platform to understand the behavior of the investors. There are various social cognitive, emotional biases, demographic relationships and psychological traits to understand economic decision making of the investors. The investor's behavior can be classified on the basis of impact of various behavioural and psychological factors in their risk perception, information seeking and investment decision making. Their attitude towards the risk and return and the behavior pattern which they follow during investment differs with respect to the various commodities in the Indian commodity market.

References

1. Raghavendra R.H., Velmurugan P.S. and Saravanan A. (2016). Relationship between Spot and Futures Markets of Selected Agricultural Commodities in India. An Efficiency and Causation Analysis, 5(1).
2. Jeevanandham P. and Ananth A.A. (2015). Investment Behaviour of Investors towards Commodity Market In Dindigul District, 5(1).
3. Muthuswamy P.R. and Devi Rathi R. (2015). Investors Risk Perception and Investors information Seeking Behaviour on Investment Decision. *International Journal of Management Research and Reviews*, 5(2), 91-100.
4. Vinay H.V. and Rao G.V. (2015). The Behavioural Biases Which Influence The Investors' On Investment Decision. *IJFRR*, 3(7), 17-24.
5. Sukheja Geetika Madaan (2016). Review Paper on Behavioural Biases in Financial Decision- Making. 5(5), 60-69.

6. Jain Dhiraj and Dashora Nakul (2012). A Study On Impact of Market Movement On Investment Decision An Empirical Analysis with Respect to Investors in Udaipur, Rajasthan. *Researchers World*, 3(2), 78-88.

7. Dhole Madhavi (2014). Impact of Behavioural Finance on Investment Decisions through Financial Instruments-A Study of (Private Practicing Doctors) Selected Professional In Aurangabad. 4(2), 1-9.

8. Kapse Sampada, Abada Sachin and Chothani Pratik (2014). Behavioural Finance: Do Investors Think Rationally?. 4(1), 74-79.

9. Sahoo Pravakar and Kumar Rajiv (2009). Efficiency and Future Trading-Price Nexus in Indian Commodity Market. *Business Review*, 10(2), 187-201.

10. Srivastava Vinay K. (2013). Efficiency In Indian Commodity Market. 17(1), 105-110.

11. Kaur Paramjeet, Virani Shreya and Fazalbhoy Shreya (2016). Psychological Traits and Demographic Factors Do They Affect Investor's Behavior?. 6(1), 46-53.

12. Sharma Amlan Jyoti (2014). The Behavioural Finance: A Challenge or Replacement to Efficient Market Concept. *The SIJ Transactions on Industrial, Finance & Business Management*, 2(6), 273-277.

13. Dikshit Abhishek Y. and Dikshit Preeti A. (2014). Is A Compromise In Sight? A Study Of Relationship Between Behavioural Finance and Efficient Market Hypothesis. *International Journal of Marketing, Financial Services and Management Research,* 3(3), 16-29.

14. Chitra K. and Jayshree T. (2015). Behavioural Factors Influencing Investors- An Underpinning on Equity Market. 3(13), 12-18.

15. Jain Kanu and Wadhwa Sahaj (2013). Behavioural Biases and Investment Process (A special refrence to Self-attribution bias and Over-Confidence Bias). 2(3), 407-412.

16. Sharma Suruchi (2016). Information Processing, Belief Perseverance, and Emotional Biases: A Study of the Impact of Gender and Investor Sophistication Factors of Secondary Market Equity Investors in Ajmer, Jaipur, Kota, and Udaipur. *The International Journal of Business & Management*, 4(1), 277-284.

17. Goel Shweta (2014). Investor's Herding Behavior and Investment Performance: An Empirical Evidence From Delhi. 2(12), 56-59.

18. Singh Ajay and Sharma Rahul (2016). Financial Literacy and its impact on Investment Behaviour for Effective Financial Planning. 6(8), 50-63.

19. Das Sanjay Kanti (2012). Retail Investor's Attitude and Perception on Stock Selection Decision: An Empirical Analysis. *Global J. of Arts & Mgmt*, 2(2), 180-188.

20. Pandey Vivekanand (2013). Role Of Gender Difference In Financial Investment Decisions: A Quantitative Analysis With Special Reference To Risk Aversion And Overconfidence Approach Amongst Management Graduates In Lucknow City Of Uttar Pradesh. *CLEAR International Journal of Research in Commerce & Management,* 4(11), 28-33.

21. Sathya S. (2015). A Comparative Study on Equity, Commodity, Currency Derivatives in India - Evidence from Future Market with special reference to BSE Ltd, Mumbai. *International Journal of scientific research and management*, 3(2), 2175-2182.

22. Shrikrishna K.S. and Rakesh H.M. (2014). A Study of Retail Investors Behavior and level of Awareness about Equity Futures and Options. 2(7), 1-20.

23. Rajib Prabina (2014). Commodity Derivatives and Risk Management. PHI Learning Pvt. Ltd., New Delhi.

24. Behera Chinmaya (2015). Long Memory and Spill-over Effects of Indian Futures Markets: An Econometrics Investigation into Metal and Energy Futures. *IJBQEAMR*, 2(1), 42-65.